

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
12 February 2004 (12.02.2004)

PCT

(10) International Publication Number
WO 2004/013681 A2

(51) International Patent Classification⁷: G02F

(21) International Application Number:

PCT/KR2003/001510

(22) International Filing Date: 29 July 2003 (29.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10-2002-0045957 3 August 2002 (03.08.2002) KR

(71) Applicant (for all designated States except US): SAM-SUNG ELECTRONICS CO., LTD. [KR/KR]; 416, Maetan-dong, Paldal-gu, Suwon-si, Gyeonggi-do 442-742 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): LEE, Sang-Duk [KR/KR]; 626-1001, Jinheung Apt., #1027, Pung-duckchun-ri, Suji-eup, Yongin-si, Gyeonggi-do 449-990 (KR). KIM, Kyu-Seok [KR/KR]; 401-504 Geumhwa-maeul Jugonggreenvill, #463, Sanggal-ri, Giheung-eup, Yongin-si, Gyeonggi-do 449-905 (KR). JUNG, Jae-Ho

[KR/KR]; 504-905 Hyundai home town, Galhyun-maul, #159 Shingal-ri, Giheung-eup, Yongin-si, Gyeonggi-do 449-907 (KR).

(74) Agent: PARK, Young-Woo; 5F, Seil Building, #727-13, Yoksam-dong, Gangnam-gu, Seoul 135-921 (KR).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

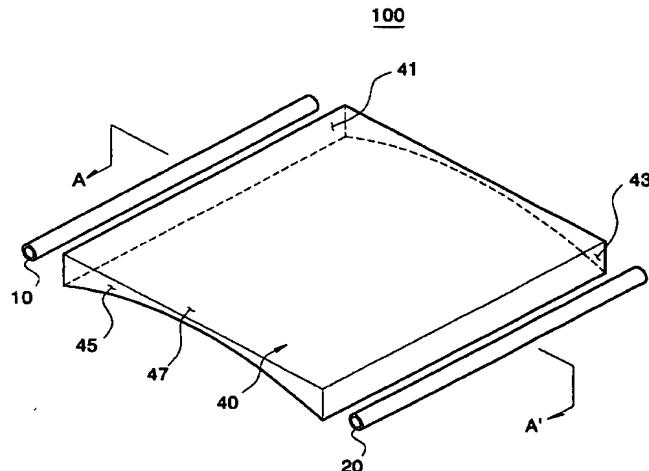
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

(Continued on next page)

(54) Title: BACK LIGHT ASSEMBLY AND LIQUID CRYSTAL DISPLAY APPARATUS HAVING THE SAME



(57) Abstract: The backlight assembly includes a light source and a light guide plate. The light source includes a plurality of light generating parts that generate a first light. The light guide plate includes side surfaces, a light exiting surface and a light reflecting surface. The light exiting surface has a plurality of luminance-compensating patterns. The light reflecting surface faces the light exiting surface. The first light enters into the light guide plate via the light incident surface to form a second light. The second light is reflected on the light reflecting surface toward the light exiting surface to form a third light. The third light exits from the light guide plate via the light exiting surface. The luminance-compensating patterns uniformize a luminance of the third light. A thickness of the light guide plate decreases in a direction from the light incident surface to a center of the light guide plate

WO 2004/013681 A2